Status of VIIRS Black Marble Nighttime Lights (VNP46)

Collection v001:

VNP46A1: At-sensor TOA radiance (c. 2019)

VNP46A2: Lunar BRDF Adjusted radiance (c. July, 2020)

Collection v002:

VNP46AX: Multi-date Composites (c. Spring, 2021)

- Temporal resolution: Daily, Monthly, Annual
- Spatial resolution: 15 arc second (Linear Lat/Lon)

Status and Updates:

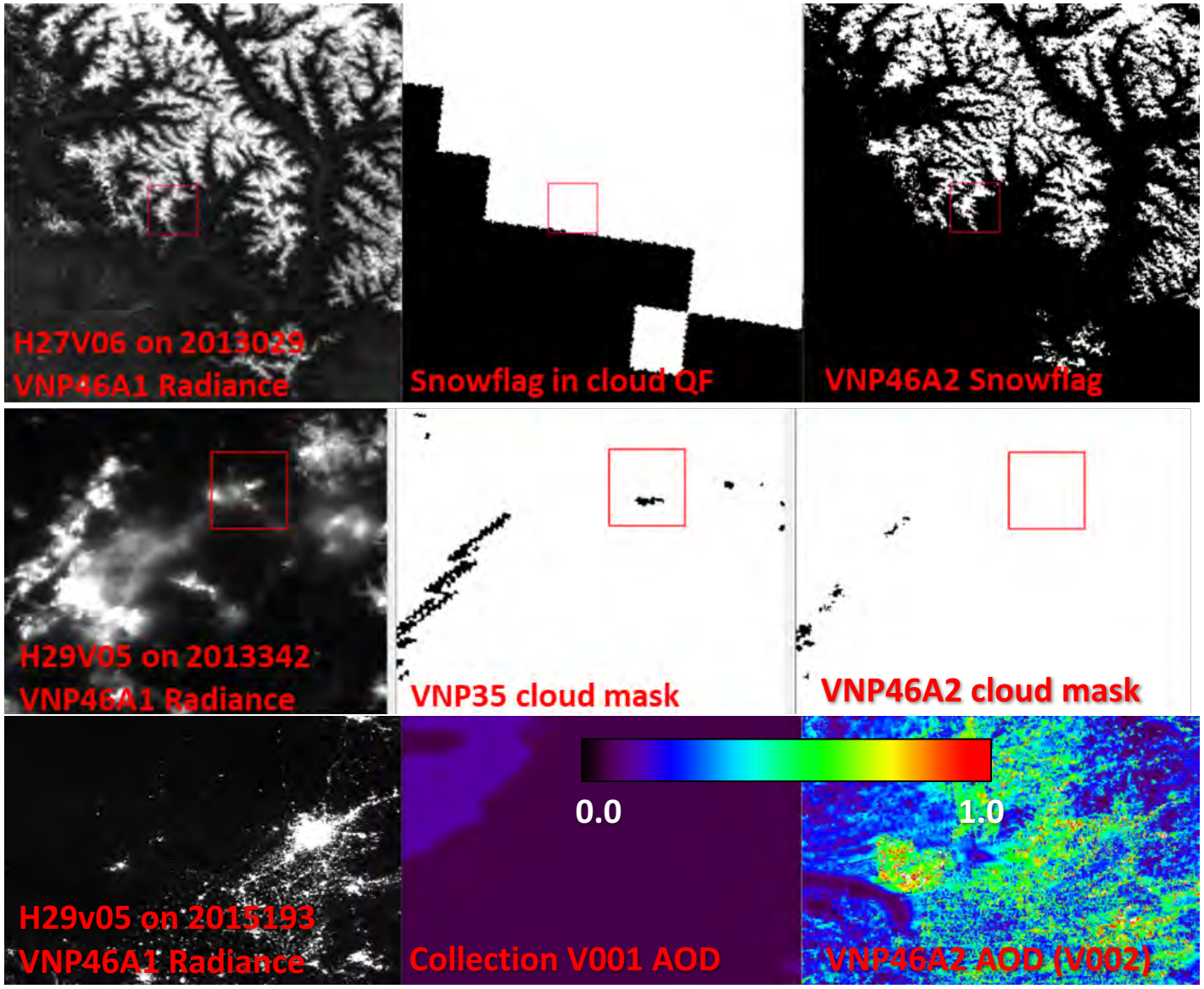
- Collection v002 Science Product Generated Executables (PGEs) have been baselined for operational processing.
- Science PGEs have been baselined for NOAA-20.

Known Issues:

- Cloud, Aerosol, & Snow Mask Accuracy (NOAA-IDPS Heritage) (Collection v002 Refinements – **seen here.**)

Recent Publications:

- Levin, N.et al. (2020) : "***Remote sensing of night lights: A review and an outlook for the future***." Remote Sensing of Environment.
- Enenkel et al., (2020): "***Emergencies do not stop at night -Advanced analysis of displacement based on satellite-derived nighttime light observations***." IBM Journal of Research and Development.
- Román et al., (2019). "***Satellite-based assessment of electricity restoration efforts in Puerto Rico after Hurricane Maria***." PLoS ONE.

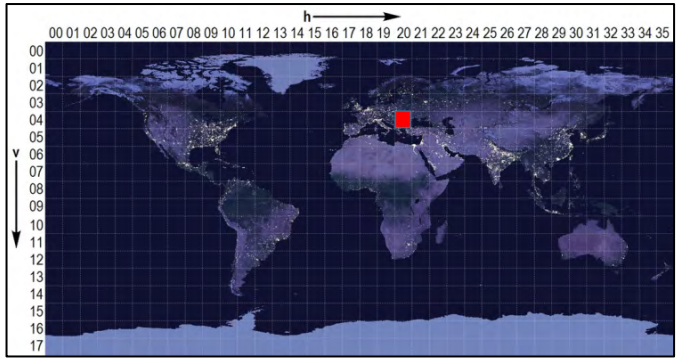


Status of NOAA-20 VIIRS Black Marble Nighttime Lights

VNP46A1.DAILY.h20v04.A2019158 - MIF:17.61% - Left: S-NPP - Center: NOAA-20 - Right: S-NPP+NOAA20

Status: VJ146A1 PGE has been baselined and processed at leading edge.

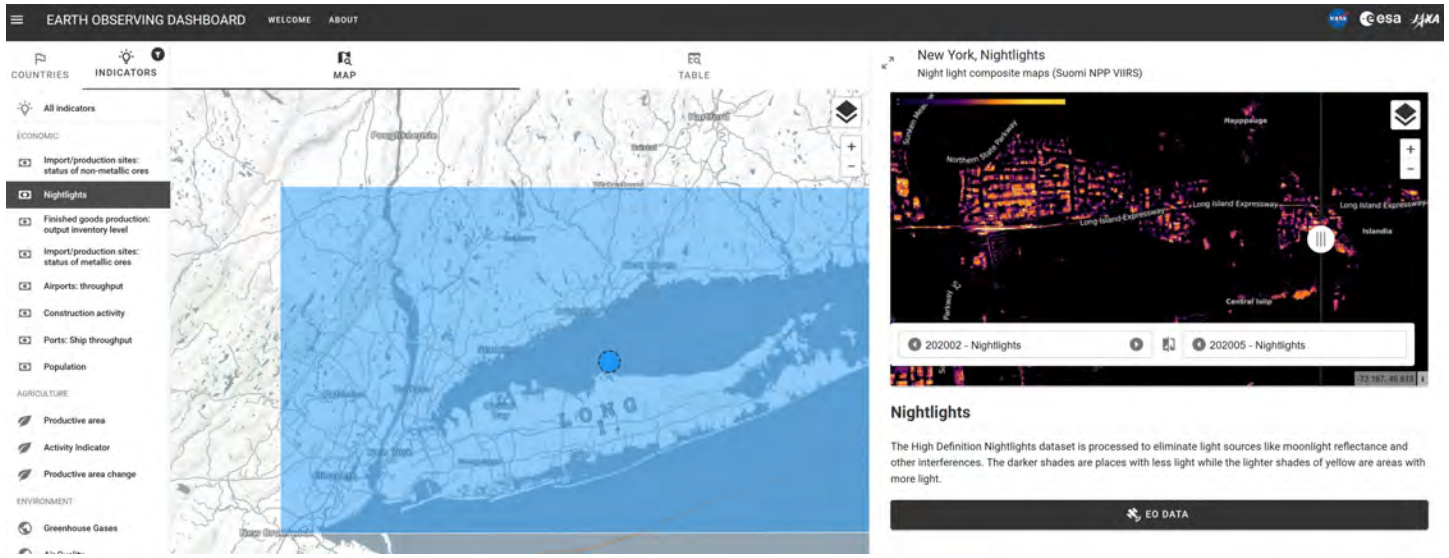
Findings: Combined (Suomi-NPP + NOAA-20) VIIRS DNB gridded products significantly reduces data gaps, while increasing valid retrievals.



COVID-19: A Tri-Agency Dashboard by NASA, ESA, JAXA

During the COVID-19 pandemic, USRA researchers are using night light observations to track variations in energy use, migration, and transportation in response to social distancing and lockdown measures.

https://earthdata.nasa.gov/covid19/

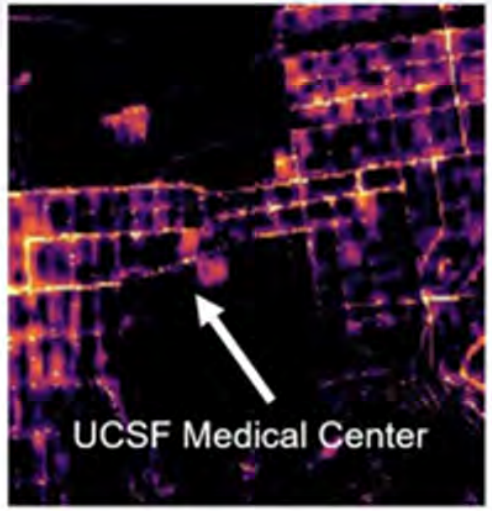


(JUST RELEASED) https://www.eodashboard.org/

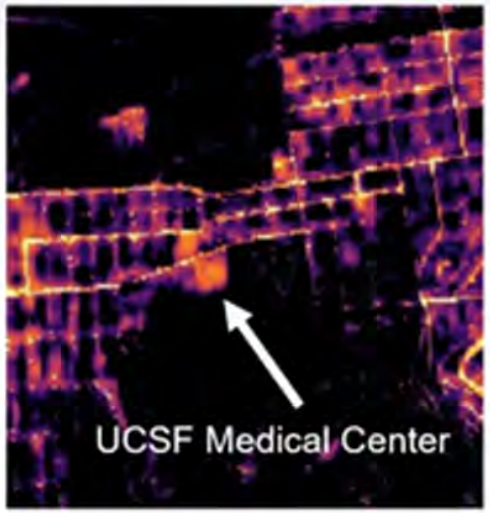
Eos Science News by AGU

Six Ways Satellites Tracked COVID-19

Earth at Night Data: San Francisco



JANUARY 2020



APRIL 2020

"Nighttime light from the medical center at UC San Francisco, shone brighter in April than in January, according to light intensity data from a NASA and NOAA satellite. The city reached its peak daily cases of COVID-19 in April."

Mobile emergency rooms installed to treat patients triaged for COVID-19.

https://eos.org/geofizz/six-ways-satellites-tracked-covid-19